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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,007	06/04/2001	Tomohiko Kudo	WN-2343	3644

7590

01/29/2003

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EXAMINER

SOWARD, IDA M

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,007

Applicant(s)

KUDO ET AL.

Examiner

Ida M Soward

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This Office Action is in response to the Applicants' amendment filed on November 14, 2002.

Election/Restrictions

Amended claims 3-4 and newly submitted claims 18-19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 3-19 could be made by a process materially different from those/that of claims 1-2.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 3-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houlihan et al. (US 6,258,673 B1) in view of Huang et al. (6,037,222).

Houlihan et al. teach a semiconductor device comprising: a first MOSFET **105** having a first gate oxide film **22**; a second MOSFET **305** of n-type conductivity having a second gate oxide film **26** thicker than the first gate oxide film; and a third MOSFET **205** having a third gate oxide film **24** which is thicker than the first gate oxide film (Figure 4, col. 3, lines 36-51). Houlihan et al. further teach isolation regions within the substrate and an oxide thickness appropriate for a desired threshold voltage. However, Houlihan et al. fail to teach a third MOSFET of p-type conductivity having a gate oxide film thinner than the second gate oxide film and MOSFETs forming a complementary MOS circuitry. Huang et al. teach a p-type MOSFET having a gate oxide film thinner than the **14** MOSFETs, MOSFETs **12** forming a complementary MOS circuitry, and isolation regions **18 & 19** within the substrate **10** close to the surface (Figure 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the oxide thickness of Houlihan et al. with the gate oxide film and complementary MOS of Huang et al. to provide a device that does not substantially increase the manufacturing process complexity or cost.

Response to Arguments

Applicant's arguments filed November 14, 2002 have been fully considered but they are not persuasive.

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In response to the remarks concerning the restriction requirement, claims 3-17 of the previous Office Action filed February 27, 2002 were dependent on device claim 1 and was not searched as clearly stated in the previous Office Action filed February 27, 2002, page 3, lines 7-13. Applicant amended claims 3-17 and added new claim in paper #5 as method claims independent of semiconductor device claims 1-2. This amendment turned the claims into an invention that is independent or distinct from the invention originally claimed. Therefore, the remarks on page 8, 1st paragraph, concerning a method of providing for different gate oxide thickness through multiple etching processes are moot because the invention originally claimed was directed to a semiconductor device.

In response to the remarks on pages 9-10, last and 1st-2nd paragraphs, respectively, Houlihan et al. indeed disclose a MOSFET of n-type and p-type conductivity in col. 1, lines 4-6. Houlihan et al. discloses a CMOS integrated circuit, which by definition includes n-type and p-type MOSFETs. Huang et al. disclose complementary MOS circuitry (col. 8, lines 60-63) and MOSFETs 12 having gate oxide films thinner than MOSFETs 14 (col. 7, lines 51-67).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M Soward whose telephone number is 703-305-3308. The examiner can normally be reached on Monday - Thursday, 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are 703-8729318 for regular communications and 703-872919 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ims
January 26, 2003



AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800